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ABSTRACT

This paper explores the issue of why some students in the Caribbean do not do as well as expected in assessed groupwork. The study was based on peer assessment in 2 university courses taken by 57 students who worked in 8 groups (group sizes 4 to 10). Both males and females participated, their ages ranging from 20 to 46 years. The study was designed to focus on fundamental learning problems rather than on problems that might be associated with learning the content of a particular course. This was done by separating the assessment of the final quality of each group's work from the assessment of individual contributions to the work and by duplicating the study in two courses. Findings indicate that a fundamental problem associated with less able students is their lack of discrimination about what the work entails. These findings are robust in that the correlations show that the effect is not just apparent for low achieving students, but that the effect decreases as the ability of the student increases. Findings were the same across groups of different sizes and across content areas. Suggestions are made about how students might reduce this problem. (SLD)

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Author:
Tony Bastick

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Controversial Learning Outcomes of Less Able Students in Assessed Groupwork

Tony Bastick

University of the West Indies

Abstract

Groupwork is a form of assessment that might be expected to favour the less able student. This is because, in addition to the traditional teaching/learning supports, groupwork also offers pedagogical advantages of social learning, leadership practice, peer guidance and the sharing of knowledge and experience. However, some Caribbean students do not do as well as expected in assessed groupwork. This study focused on the issue of why these students do not do as well as expected.

The design of the study was based on peer assessment on two separate university courses taken by 57 students who worked in 8 groups (sizes 4 to 10). The students included males and females and their ages ranged from 20 to 46 years.

The study was designed to focus on fundamental learning problems rather than problems that might be associated with learning the content of a particular course. This was done by separating the assessment of the final quality of the content of each group's work from the assessment of their individual contributions to the work and by duplicating the study in two different courses for comparison - an undergraduate Measurement course and a Masters Psychology course. The design also offered evidence to assure the reliability and validity of its data.

The findings indicated that a fundamental problem associated with the less able students is their lack of discrimination of what the work entails. These findings are robust in that the correlations show that the effect is not just apparent for the low achieving students but that the effect decreases as the ability of the students increases. The findings were the same across groups of different sizes and across content areas. Suggestions are made as to how students might reduce this learning problem.

Introduction

This paper explores the issue of why some Caribbean students do not do so well as expected in assessed groupwork projects. There are many reasons for expecting students to do well in group assignments including the attainment of self-seeking aims such as the emancipation (Patterson, 1996) and empowerment (Stanier, 1997) of the students. The use of groupwork can emancipate and empower students because it encourages students to take considerable responsibility for their own progress and to plan their work. Students experience how to negotiate work roles and agreed standards. They learn to give and receive feedback. They have opportunities to learn project time management. Groupwork also embraces student's individualised goals and interests. In addition, groupwork is particularly helpful in raising the attainments of lower performing students by offering pedagogical advantages of social learning, peer guidance and the sharing of knowledge and experience with higher attaining students. Students are energised by cooperative groupwork and see distinct learning advantages in this paradigm (Orsmond, 1996). Results of other studies have shown that students think peer assessment is an important part of the group grading process (Keaten & Richardson, 1993). Student reactions to the cooperative assessment processes are overwhelmingly positive (Griffin, 1994). However, the fact that some students do not do well might be due to many reasons; to low motivation, lack of ability in the subject, inaccessibility of resources, etc.

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Methodology

In order to investigate why some students do not do as well as expected eight groupwork projects were instigated with 57 students on a Measurement course and a Psychology course at the University of the West Indies. The groups ranged in size from four to ten. The students, males and females, were between 20 and 46 years of age. The criteria for assessing the overall quality of each group's work was kept separate from the assessment of each group member's contribution to the groupwork. The purpose of separating the content assessment from the assessment of individual contributions was to focus on fundamental reasons why some students do not do so well rather than confound these observations with difficulties that might be associated with the content of a particular course.

At the begining of the course each group was given guidance on the assessment criteria of the finished product. Separately from this, each group member was also given a confidential form and asked to use it, when the work was finished, to assess each member's individual contribution to the group's work. The purpose of using peer assessment for this aspect of the group assessment was to maximise the validity of marking each group member's contribution to the project by using group 'insider' knowledge of who did what, how much and how well. Such intimate knowledge of the workings of the group was unlikely to be available to an assessor, such as the lecturer, who was external to the group. In addition each group member was asked to write a short rationale explaining each judgement.

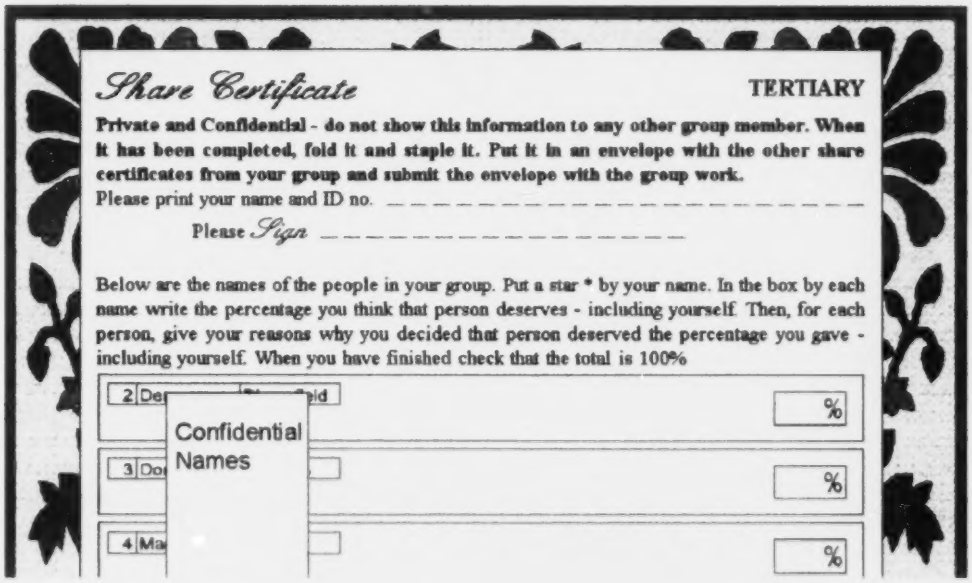
Share Certificate
TERTIARY
Private and Confidential - do not show this information to any other group member. When it has been completed, fold it and staple it. Put it in an envelope with the other share certificates from your group and submit the envelope with the group work.
Please print your name and ID no.
Please Sign
Below are the names of the people in your group. Put a star * by your name. In the box by each name write the percentage you think that person deserves - including yourself. Then, for each person, give your reasons why you decided that person deserved the percentage you gave - including yourself. When you have finished check that the total is 100%
Confidential Names
%
%
%

Figure 1 Part of a confidential group assessment form

The consistency of the group members' reports on each member acted as a check on the validity of their judgements. This included an assessment of their own contribution. So, for example, if a group had seven members then the final mark for each member was dependent on seven independent confidential judgements with rationales, being one from each group member. The final mark awarded for an individual's contribution to the group's work was simply the average of the marks given to their contribution by the other group members. The consistency of the marks awarded to a group member was then used as a measure of the reliability of their mark. Hence, this methodology offered quality validity and reliability evidence that was superior to most single assessments by a lecturer or by another non-group member. The availability of this validity and reliability evidence was considered important for supporting the findings of this study.

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Results

A tableau showing the results of a typical group is given in figure 1. The names and ID numbers have been partially covered to maintain confidentiality. This tableau shows exactly how the process works and illustrates the main finding.

ED30F Group 2 Assessment				Percentages given by group members					Average received	Std. Dev received	Raw Individual mark received	Individual mark
Group Number		Marks avaliable	395									
Subject area		Group % for assignment	79									
10	Maths	Number in group	5									
st/id	disc-id	name	st/id	21	22	23	60	62				
21	95-	Nicola		25.0	25.0	24.0	25.0	24.0	24.6	0.55	97.2	97
22	95-	na		21.0	19.0	18.0	19.0	20.0	19.4	1.14	76.6	77
23	95-	elix		14.0	15.0	17.0	17.0	15.0	15.6	1.34	61.6	62
60	97-	ndre		24.0	23.0	23.0	22.0	22.0	22.8	0.84	90.1	90
62	97-	nna		16.0	18.0	18.0	17.0	19.0	17.6	1.14	69.5	70
		% total check = 100%		*100*	*100*	*100*	*100*	*100*	*100*			
Corr sd of given		Means of marks given		20.0	20.0	20.0	20.0	20.0	20.0	1.0	79.0	79.2
with received =	0.74	St.devs of marks given		4.8	4.0	3.2	3.5	3.4	3.7	0.3	14.6	14.3

Confidential Names and IDs

Figure 2 Processed peer assessments from a typical group

The tableau in figure 2 shows the results from a group of size five and how the five students' assessments from their confidential forms have been processed. For example, column 21 has the five marks given by student No.21 these are 25.0, 21.0, 14.0, 24.0 and 16.0 and the '% total check' is 100 as required. When the marks have been entered for all five columns, in the same row order, then each row holds the marks received by each student. So in this example the first row is for student 21 and the marks received for that student are respectively 25.0 (self-assessed), 25.0 (from student 22), 24.0 (from student 23), 25.0 (from student 60) and 24.0 (from student 62). The average of this row, 24.6%, is the percentage of the total mark that the group has allotted to student 21. To find the final mark for this student we find the number of marks that have been made available from the assessment of the performance weighted by the number of group members. In our example it is 5x79=395. That is the quality of the finished work was independently assessed at 79%. The 79 is multiplied by the number of members in the group, 5 in this case, and each student gets their share e.g. student 21 gets 29.4% of 5 x 79 which is 97% as shown in the last column of the tableau.

Findings from the analysis of the marks given and received by the group members showed a consistent pattern across groups and content areas. The variation in the marks that were given by a group member to the other members of the group was positively correlated with the total mark that was received by that group member from the rest of the group. It must be remembered that the two confidential processes, (i) giving a mark to others and (ii) the average of the marks received, are independent processes that this paper now shows to be statistically correlated.

Table 1 lists the findings from all eight groups to illustrate the consistency of this finding. These groups are not 'samples' and so it is the effect-size of the correlation that is of interest. The significances are given only for completeness.

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	Group 1	Group 2	Group 3	Group 4
Corr	.7650	.7418	.9690	1.0000
n	(10)	(5)	(5)	(5)
Sig	P= .010	P= .151	P= .007	P= .000

	Group 5	Group 6	Group 7	Group 8
Corr	.7317	.9061	.5598	.3389
n	(4)	(5)	(10)	(13)
Sig	P= .268	P= .034	P= .092	P= .257

Table 1 Showing a consistent positive correlation across groups and subjects of 'marks received' with 'variation in marks given'

Discussion

These correlations mean that the less a group member is able to distinguish between the value of the contributions of group members then the lower is the mark independently awarded to that group member by the other students. This indicates that, independent of content and group size, a fundamental reason that some students do not do so well in group work is that they lack the necessary discrimination of what the work entails. This result is quite robust in that being a correlation it is not an all-or-nothing effect, but applies increasingly across the ability range from high attaining students down to low attaining students.

This finding suggests that an effective method of helping these students to improve their performance would be to make them more aware of the relative importance of different aspects of the work. This might be achieved by encouraging these weaker students to first produce a list of what is involved in the work and then asking them to prioritise their list in order of importance. The efficacy of this suggested method of improving the attainment of the weaker students is a direction for further research.

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